

**To:** Steve Austin[nnepawq@frontiernet.net]  
**Cc:** Robert Henrion[rhenrion@usgs.gov]; Foster, Althea[Foster.Althea@epa.gov]; david.nez@nndoh.org[david.nez@nndoh.org]; thomas.skibitski@state.nm.us[thomas.skibitski@state.nm.us]  
**From:** Bexfield, Laura  
**Sent:** Mon 8/10/2015 6:34:19 PM  
**Subject:** Re: FW: Gold King Mine Realease - Region 9 Update 3

Thank you so much for the information, Steve. As you probably already know from your conversation with Rob Henrion, our USGS office had two sampling crews in the affected area over the weekend. I have included a few other folks on this email to keep everyone informed of our data collection so far. Our crews collected a total of 7 water samples at 5 sites. Four of these samples (1 on the Animas at Farmington, 1 on the San Juan at Shiprock, and 2 on the San Juan at Four Corners) were collected prior to arrival of the plume. Three samples (1 each on the Animas at Farmington, the San Juan at Farmington, and the San Juan at Shiprock) were collected after the plume had arrived. We are submitting these samples to our laboratory today for analysis of major elements, trace elements, and mercury. We are requesting expedited analysis, but I do not know yet how quickly the data will be reported to us.

If there is any other information we can provide that would be helpful to you, please do not hesitate to ask.

Best regards,  
Laura

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Laura Bexfield, Hydrologist  
U.S. Geological Survey  
New Mexico Water Science Center  
Water Quality Specialist  
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On Mon, Aug 10, 2015 at 11:06 AM, Steve Austin <[nnepawq@frontiernet.net](mailto:nnepawq@frontiernet.net)> wrote:

Rob/Laura,

Here is the latest update from EPA Region 9. The attached preliminary data file has the full suite that EPA is analyzing for. The link to Region 8's information website is in the update below. Please let me know if you have any other questions.

--Steve

Steve Austin

Senior Hydrologist

NNEPA WQ/NPDES Program

505-368-1037

**From:** Allen, HarryL [mailto:[Allen.HarryL@epa.gov](mailto:Allen.HarryL@epa.gov)]

**Sent:** Monday, August 10, 2015 12:31 AM

**To:** R9\_ER List <[R9\\_ER\\_List@epa.gov](mailto:R9_ER_List@epa.gov)>; Ostrander, David <[Ostrander.David@epa.gov](mailto:Ostrander.David@epa.gov)>; acrotty@navajo-nsn.org; jdelmar@navajo-nsn.org; Yogi, David <[Yogi.David@epa.gov](mailto:Yogi.David@epa.gov)>; Hubbard, Secody <[Hubbard.Secody@epa.gov](mailto:Hubbard.Secody@epa.gov)>; Lee, Bessie <[Lee.Bessie@epa.gov](mailto:Lee.Bessie@epa.gov)>; hcleveland@navajo-nsn.org; Foster, Althea <[Foster.Althea@epa.gov](mailto:Foster.Althea@epa.gov)>; Webster, Susan <[webster.susan@epa.gov](mailto:webster.susan@epa.gov)>; Hayes, Mark <[hayes.mark@epa.gov](mailto:hayes.mark@epa.gov)>; Sandoval, Joni <[Sandoval.Joni@epa.gov](mailto:Sandoval.Joni@epa.gov)>

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**Subject:** Gold King Mine Realease - Region 9 Update 3

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10 - Please join us. The call in number is:*

Nonresponsive Conference Code

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**Background**On August 5, 2015, an EPA team working to investigate and address contamination at the Gold King Mine in San Juan County, Colorado, unexpectedly

triggered a large release of mine waste water into the upper portions of Cement Creek. Initial estimates are that the release contained approximately one million gallons of water that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

8/9/2015

This morning EPA is releasing a detailed data table of the sampling in Cement Creek and the upper portions of the Animas River from August 5, the date of the incident, and August 6.

EPA expects to have new data from August 7 which is currently undergoing review and will be available to the public later today. We acknowledge frustration with the turnaround time for this information. Workers at the lab and data experts are working continuously to develop the information.

The data table (attached) contains a list of analyzed constituents, largely metals, and their numeric value in micrograms per liter, which is equal to parts per billion, or ppb.

The data table released today will include updates to the information released by EPA on August 7. The incident, which occurred on August 5, caused an increase in concentrations of total and dissolved metals as the contaminated mine water moved downstream. These concentrations began to trend toward pre-event conditions by August 6. August 7 and 8 data, when it is available, will inform whether the trend towards pre-event conditions continues.

Note: Total metals analysis for water samples includes the metals content both dissolved in the water and present in the particulates in the water. Typically a dissolved metals analysis of a water sample is performed by removing the particulates with a filter, then analyzing the filtered water for metals  
Site information, maps and sampling data are all available at:

[http://www.epaosc.org/site/site\\_profile.aspx?site\\_id=11082](http://www.epaosc.org/site/site_profile.aspx?site_id=11082). Please request a password to view the geospatial viewer for an interactive map accessed through the webpage. Standard (Claim) Form 95 was added to our website (attached).

### **EPA Region 9 Activities**

Yesterday the President of the Navajo Nation declared a State of Emergency for the San Juan River valley. Today, the President and his staff toured the Gold King Mine Site. Rusty Harris-Bishop escorted the President the tour. The President and his staff then attended the community meeting in Durango.

The discharge has moved quickly and was observed near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River - prior to the spill impact. Region 9 has provided 6 START contractors to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. This joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the foreseeable future (a static map of the sampling locations "Overview" is attached).

A Region 9 OSC will report to Farmington on Monday to assist. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Region 9 will be providing assistance to Navajo NTUA (utilities) to deliver water to the areas impacted by the Gold King Mine Spill - starting with the Montezuma Creek area. NTUA is sourcing the water from their Sweetwater wells and filling up the service tanks in the affected areas. The ERRS contractor will be providing assistance in the transportation of these waters.

Two Community Involvement Coordinators (CICs) arrived in Farmington on Sunday. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters. The CICs have begun working with local Navajo Chapter officials and will participate in public meetings at Aneth and Oljato on 8/10.

OSC Robert Wise (Durango):562-889-2572

PIO Rusty Harris-Bishop (Durango):415-694-8840

OSC Randy Nattis (SF to Farmington 8/10): 415-940-1108

Harry Allen, Section Chief (Sit Report): 415-218-7406

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**From:** Allen, HarryL  
**Sent:** Saturday, August 8, 2015 9:50 PM  
**To:** R9\_ER List  
**Cc:** [ebranch@nndoij.org](mailto:ebranch@nndoij.org); [bidtahnbecker@navajo-nsn.gov](mailto:bidtahnbecker@navajo-nsn.gov); [russellbegaye@gmail.com](mailto:russellbegaye@gmail.com); [jonmnez@yahoo.com](mailto:jonmnez@yahoo.com); [donbenn@navajo-nsn.gov](mailto:donbenn@navajo-nsn.gov); [tflora@nndoij.org](mailto:tflora@nndoij.org); [perryinwr@gmail.com](mailto:perryinwr@gmail.com); [rjoe.opvp@gmail.com](mailto:rjoe.opvp@gmail.com); [rbegay@nndoij.org](mailto:rbegay@nndoij.org); [dtaylor@nndoij.org](mailto:dtaylor@nndoij.org); [cbradley@nndoij.org](mailto:cbradley@nndoij.org); [smpollack@nndoij.org](mailto:smpollack@nndoij.org); [ronnieben@navajo-nsn.gov](mailto:ronnieben@navajo-nsn.gov); [nnepawq@frontiernet.net](mailto:nnepawq@frontiernet.net); [ybarney@navajopublicwater.org](mailto:ybarney@navajopublicwater.org); [Ramona.nez@nndoh.org](mailto:Ramona.nez@nndoh.org); Johnson, AudreyL; Li, Corine; Montgomery, Michael; Cristiano, Gina; Ostrander, David; [acrotty@navajo-nsn.org](mailto:acrotty@navajo-nsn.org); [jdelmar@navajo-nsn.org](mailto:jdelmar@navajo-nsn.org); Yogi, David; Hubbard, Secody; Lee, Bessie; Farris, Laura  
**Subject:** Gold King Mine Realelease - Region 9 Update 2

Please be advised that Region 9 will send daily written updates to this notification list on EPA activities, highlighting new information each day. Also, Region 9 will host a daily Navajo Nation coordination call at 4pm Navajo Time (3PM PDT) - *Next Call Monday 8/10* - Please join us. The call in number is:

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## Background

On August 5, 2015, EPA was conducting an investigation of the Gold King Mine, north of Silverton, CO. The intent of the investigation was to assess the on-going water releases from the mine, to treat mine water, and to assess the feasibility of future mine remediation. The plan was to excavate the loose material that had

collapsed into the cave entry back to the timbering. During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. Initial estimates are that the release consisted of approximately one million gallons of water (estimated from the dimensions of the mine adit) that was held behind unconsolidated debris near an abandoned mine portal. There were several workers at the site at the time of the breach, all were unharmed.

The first two days after the incident, the plume was moving at approximately 4 miles per hour. According to the EPA's flyover, as of the morning of Aug 8th, the plume had reached the confluence of the San Juan River. As of 4:00 pm this afternoon, the plume had roughly reached Kirtland, New Mexico. The plume has been visually diluted and the leading edge of it is far less defined. The water is reported to be muddy with an orange tinge rather than solid orange.

Sampling data from Cement Creek and the Animas River near Silverton from Aug. 5th and 6th show pH and metals concentrations are decreasing to pre-event conditions. We continue to monitor river conditions at multiple locations to detect trends. Rain events and variations in stream flows can cause the pH and metals concentrations to rise and fall.

The data shows that pH (acidity) levels and dissolved metals in the Cement Creek and the upper portions of the Animas River spiked in the surface water at locations impacted by the contaminant plume. The data shows in the upstream locations the resident time of the plume in any one location was not long lasting. The trend downstream, in the Animas and San Juan Rivers, is expected to be similar or better than upstream, as the contaminant plume passes.

Colorado Parks and Wildlife (CPW) officials have been monitoring the effects of the spill on terrestrial and aquatic wildlife since the incident began. CPW is watching for any impacts on wildlife, whether they are acute or chronic. Fish are especially sensitive to changes in water quality. CPW is also monitoring a control station on a clean tributary.

Colorado Parks and Wildlife has indicated they are optimistic that the effects of the spill on terrestrial wildlife will be minimal.

The water in Cement Creek and the Animas River in Silverton is clearing. The adit is still discharging approximately 500 gallons per minute and the trend is that flow is decreasing. The discharge is being diverted into the newly constructed ponds and treated before it enters Cement Creek. The treatment appears to be effective.

A summary of pH and dissolved metals data is available here:  
<http://epaosc.org/goldkingmine>

## NEXT STEPS

- Continue to treat drainage at mine site.
- Continue to sample the Animas River corridor
- Evaluate and publish data as it is finalized.
- Continue coordination with State, Federal, Tribal and local officials as well as community members, landowners/ water users.
- Continue to provide drinking water and water testing to private well owners.

Site information, maps and sampling data are all available at:

[http://www.epaosc.org/site/site\\_profile.aspx?site\\_id=11082](http://www.epaosc.org/site/site_profile.aspx?site_id=11082). Please request a password to view the geospatial viewer for an interactive map accessed through the webpage.

## EPA Region 9 Activities

The discharge has moved quickly and is in the vicinity of the Navajo Nation boundary, near Kirtland, NM. Navajo officials have reacted quickly, assessing their well fields and drinking and irrigation water intake systems and issuing a precautionary "do not use" public service announcement regarding water from potentially impacted sources. Region 9 held a conference call today with Navajo Nation EPA (NNEPA) and Navajo Department of Public Safety.

The Navajo EPA surface water monitoring program (Shiprock Office) collected water and sediment samples from the San Juan River yesterday - prior to the spill impact. Region 9 provided 2 START contractors and has requested 2 additional personnel to coordinate and conduct increased sample collection and lab analysis in conjunction with NNEPA. A Region 9 OSC will report to Farmington on Monday to assist. A joint EPA/NNEPA river sampling program has commenced focusing on the San Juan between Shiprock/Hogback, NM area and Mexican Hat, UT and will continue for the foreseeable future. NNEPA also requested drinking water sampling support immediately for Navajo operated water intakes. NNEPA and USEPA drinking water experts agreed to inventory and assess water sources including private wells and intakes.

Two Community Involvement Coordinators (CICs) will deploy to Farmington on Sunday. The CICs will plan to meet with local Navajo Chapter officials and prepare to host public meetings in the coming days. The CICs will partner with NNEPA and NN Department of Public Safety to ensure comprehensive outreach to all affected Navajo Chapters.

Region 9 has deployed an On Scene Coordinator (OSC) to the Durango Incident

Command Post to coordinate Navajo field activity updates and results with Region 8 and ensure command messages get back to Navajo officials. The Region has also deployed a Public Information Officer (PIO) to participate in a Joint Information Center (JIC), presently in Durango, with and other the affected Federal, State, County and Tribal agencies.

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